

B1  
56, which extends from the distal end of the fluid carrying lumen 46 out of the probe's distal end 48. The irrigation tube 56 has a series of irrigation openings 57 for passage of a cooling fluid out through the spaces between the coils of the metallic ribbon 49, as described in more detail below. The irrigation openings 57 can take any suitable shape, such as rectangular or oval slots or round holes. In a preferred embodiment the irrigation tubing 56 has at least three irrigation openings 57. The irrigation openings 57 are preferably in the section of the irrigation tubing 56 corresponding to the section of the metal ribbon electrode 47 that is to be in contact with the tissue during an ablation procedure to enhance the cooling of the ablation site.

---

**In the Claims:**

Please cancel claim 35, amend claims 34 and 42, and add new claims 64 to 73. All of pending claims 11, 12, 17, 18, 26, 27, 30 to 34, and 36 to 73 follow:

B2  
11. An irrigation probe according to claim 43, wherein the tubular body has an outer diameter ranging from about 0.50 inch to about 0.70 inch.

12. An irrigation probe according to claim 43, wherein the tubular body has an inner diameter ranging from about 0.40 inch to about 0.60 inch.

B3  
17. An irrigation probe according to claim 34, wherein the probe body has a length ranging from about 3.5 inches to about 12 inches.

18. An irrigation probe according to claim 34, wherein the probe body has a length ranging from about 5 inches to about 10 inches.

B4  
26. A method according to claim 56, wherein the generally rigid probe body comprises:  
tubing having proximal and distal ends and first and second lumens extending therethrough, wherein the electrode is mounted at the distal end of the tubing;  
a stiffening wire having proximal and distal ends that extends through the second lumen of the tubing; and

34 an infusion tube that extends at least a part of the way through the first lumen of the tubing, wherein the distal end of the infusion tube is in fluid communication with the inner cavity of the irrigation tube.

27. A method according to claim 26, wherein the stiffening wire is made of a malleable material.

30. A method according to claim 56, wherein the probe body has a length ranging from about 3.5 inches to about 12 inches.

31. A method according to claim 56, wherein the probe body has a length ranging from about 5 inches to about 10 inches.

32. A method according to claim 56, wherein the probe body has a length ranging from about 7 inches to about 8 inches.

33. A method for treating atrial fibrillation in a patient comprising:  
opening the heart of the patient; and  
ablating at least one linear lesion in the heart tissue using an irrigation probe as recited in claim 34.

34. (Amended) An irrigation probe comprising:  
a generally rigid probe body having proximal and distal ends;  
a generally flexible irrigation tube having first and second ends, the irrigation tube defining an inner cavity, wherein the irrigation tube generally forms a loop and both the first and second ends are fixedly attached to the distal end of the probe body, the irrigation tube having at least one irrigation opening through which fluid can pass from the inner cavity to the outside of the irrigation tube;  
means for introducing fluid into the inner cavity of the irrigation tube; and

B4 an electrode comprising a flexible metal ribbon having first and second ends, wherein the metal ribbon is coiled around the irrigation tube to form coils, and wherein space is provided between the coils to allow fluid to pass from the irrigation tube to the outside of the electrode.

---

36. An irrigation probe according to claim 34, wherein the first and second ends of the electrode are fixedly attached to the distal end of the probe body.

37. An irrigation probe according to claim 34, wherein the probe further comprises an electrode lead wire with proximal and distal ends wherein the proximal end of the electrode lead wire is electrically connected to a source of ablation energy and the distal end of the electrode lead wire is electrically connected to the electrode.

B7 38. An irrigation probe according to claim 34, wherein the means for introducing fluid into the inner cavity comprises an infusion tube having proximal and distal ends, wherein the distal end of the infusion tube is in fluid communication with the inner cavity.

39. An irrigation probe according to claim 38, further comprising a handle mounted at the distal end of the probe body, the handle comprising a housing having a generally open interior.

40. An irrigation probe according to claim 34, wherein the generally rigid probe body comprises a malleable material.

41. An irrigation probe according to claim 34, wherein the flexible metal ribbon is made of nitinol.

42. (Amended) An irrigation probe comprising:  
a generally rigid probe body having proximal and distal ends;  
a generally flexible irrigation tube having first and second ends, the irrigation tube defining an inner cavity, wherein the irrigation tube generally forms a loop and both the first and second ends are

**Application No. 09/692,494**

fixedly attached to the distal end of the probe body, the irrigation tube having at least one irrigation opening through which fluid can pass from the inner cavity to the outside of the irrigation tube;

an electrode comprising a flexible metal ribbon having first and second ends, wherein the metal ribbon is coiled around the irrigation tube to form coils, and wherein space is provided between the coils to allow fluid to pass from the irrigation tube to the outside of the electrode;

a handle mounted to the proximal end of the probe body; and

an infusion tube having proximal and distal ends, wherein the distal end of the infusion tube is in fluid communication with the inner cavity.

43. An irrigation probe according to claim 42, wherein the generally rigid probe body comprises:

a generally rigid tubular body having proximal and distal ends, wherein the tubular body has at least one irrigation opening at its distal end through which fluid can pass to the inner cavity of the irrigation tube; and

a non-conductive sheath covering the tubular body.

44. An irrigation probe according to claim 43, wherein the tubular body has an inner diameter ranging from about 0.40 inch to about 0.80 inch and an outer diameter ranging from about 0.50 inch to about 0.90 inch.

45. An irrigation probe according to claim 43, wherein the tubular body is made of a malleable material.

46. An irrigation probe according to claim 43, further comprising a flexible plastic tubing attached to the proximal end of the tubular body for introducing fluid into the tubular body.

47. An irrigation probe according to claim 42, wherein the probe body has a length ranging from about 3.5 inches to about 12 inches.

**Application No. 09/692,494**

48. An irrigation probe according to claim 42, wherein the probe body has a length ranging from about 7 inches to about 8 inches.

49. An irrigation probe according to claim 42, wherein the loop has a diameter ranging from about 0.50 inch to about 1.5 inches.

50. An irrigation probe according to claim 42, wherein the loop has a diameter ranging from about 0.75 inch to about 1.25 inches.

51. An irrigation probe according to claim 42, wherein the metal ribbon is made of nitinol.

52. An irrigation probe according to claim 42, wherein the generally rigid probe body comprises:

tubing having proximal and distal ends and first and second lumens extending therethrough, wherein the irrigation tube and electrode are mounted at the distal end of the tubing;

an infusion tube that extends at least part of the way through the first lumen of the tubing, wherein the distal end of the infusion tube is in fluid communication with the inner cavity of the irrigation tube; and

a stiffening wire having proximal and distal ends that extends through the second lumen of the tubing.

53. An irrigation probe according to claim 52, wherein the stiffening wire is made of a malleable material.

54. An irrigation probe according to claim 52, wherein the probe body has a length ranging from about 3.5 inches to about 12 inches.

55. An irrigation probe according to claim 52, wherein the probe body has a length ranging from about 7 inches to about 8 inches.

37 56. A method for treating atrial fibrillation in a patient comprising:  
opening the heart of the patient; and  
ablating at least one linear lesion in the heart tissue using an irrigation probe as recited in  
claim 42.

---

38 57. A method according to claim 56, wherein the generally rigid probe body comprises:  
a generally rigid tubular body having proximal and distal ends, wherein the tubular body has at  
least one irrigation opening at its distal end through which fluid can pass to the inner cavity of the  
irrigation tube; and  
a non-conductive sheath covering the tubular body.

58. A method according to claim 57, wherein the tubular body has an inner diameter ranging  
from about 0.40 inch to about 0.80 inch and an outer diameter ranging from about 0.50 inch to about  
0.90 inch.

59. A method according to claim 57, wherein the tubular body is made of a malleable material.

60. A method according to claim 57, further comprising a flexible plastic tubing attached to the  
proximal end of the tubular body for introducing fluid into the tubular body.

61. A method according to claim 56, wherein the loop has a diameter ranging from about 0.50  
inch to about 1.5 inches.

62. A method according to claim 56, wherein the loop has a diameter ranging from about 0.75  
inch to about 1.25 inches.

63. A method according to claim 56, wherein the metal ribbon is made of nitinol.

---

39 64. (New) An irrigation probe comprising:  
a generally rigid probe body having proximal and distal ends;

a generally flexible irrigation tube having first and second ends, the irrigation tube defining an inner cavity through which no other components extend, wherein the irrigation tube generally forms a loop and at least one end is fixedly attached to the distal end of the probe body, the irrigation tube having at least one irrigation opening through which fluid can pass from the inner cavity to the outside of the irrigation tube;

means for introducing fluid into the inner cavity of the irrigation tube; and

an electrode comprising a flexible metal ribbon having first and second ends, wherein the metal ribbon is coiled around the irrigation tube to form coils, and wherein space is provided between the coils to allow fluid to pass from the irrigation tube to the outside of the electrode.

65. (New) An irrigation probe according to claim 64, wherein both the first and second ends of the irrigation tube are fixedly attached to the distal end of the probe body.

66. (New) An irrigation probe according to claim 64, wherein the first and second ends of the electrode extend into to the distal end of the probe body.

67. (New) An irrigation probe according to claim 64, wherein the probe further comprises an electrode lead wire with proximal and distal ends wherein the proximal end of the electrode lead wire is electrically connected to a source of ablation energy and the distal end of the electrode lead wire is electrically connected to the electrode.

68. (New) An irrigation probe according to claim 64, wherein the means for introducing fluid into the inner cavity comprises an infusion tube having proximal and distal ends, wherein the distal end of the infusion tube is in fluid communication with the inner cavity.

69. (New) An irrigation probe according to claim 64, wherein the generally rigid probe body comprises a malleable material.

70. (New) An irrigation probe according to claim 64, wherein the flexible metal ribbon is made of nitinol.